Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Section 68.4 of the	)	RM 8658
Commission's Rules -	)	
Hearing Aid Compatible	)	
Telephones	)	

AMERICAN PERSONAL COMMUNICATIONS'
OPPOSITION TO PETITION FOR RULE MAKING

Jonathan D. Blake
Kurt A. Wimmer
Laura F. Quinter

COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
Post Office Box 7566
Washington, D.C. 20044
(202) 662-6000

Attorneys for
American Personal Communications

Mr. J. Barclay Jones
Vice President, Engineering
American Personal Communications
One Democracy Center
6901 Rockledge Drive, Suite 600
Bethesda, Maryland 20817

July 17, 1995

SUMMARY

APC has believed throughout its efforts to bring PCS to the American public that PCS must be a service for everyone -- including disabled Americans who can benefit from competitively priced portable telephony services. APC thus has mandated strict additional compatibility requirements for all its handset manufacturers. APC has been working with PCS manufacturers to help ensure that hearing-impaired individuals will be full participants in the PCS revolution and is confident that those efforts will be met with success.

The action proposed by HEAR-IT NOW threatens to stop these efforts dead in their tracks and would delay the advent of competitive PCS service in the United States. This would endanger the ongoing efforts toward ensuring that PCS equipment is hearing-aid compatible and defeat the concerns of the legitimate hearing-rights groups that we believe have been misled into supporting HEAR-IT NOW. Its petition provides no basis for such a result.

HEAR-IT NOW's claims are based entirely on an unscientific and anecdotal survey of studies of the European GSM standard. But the American proposed standard derived from GSM, "PCS-1900," operates in a different frequency band from any GSM technology that has been studied and transmits at a small fraction of GSM's power. Proper studies now are being performed and will be available for the Commission to assess.

HEAR-IT NOW seeks to gain an unfair and unwarranted advantage for its competing digital technology by attempting to create an unjustified public health and safety scare. Experts have found that the interference problems associated with the GSM standard do not pose any health or safety risks. Even higher-powered European GSM technologies now serve 10,000,000 subscribers in 69 countries around the world, without a single country denying the technology access because of hearing-aid interference.

Finally, the considerations which led Congress in 1988 to carve out exemptions from the Act for "telephones used with public mobile services" and "telephones used with private radio services" would lead to the same result if they were revisited today. Petitioner has presented no evidence demonstrating that the standard for revocation of these exemptions to the Act has been met.

CONTENTS

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Section 68.4 of the	)	RM 8658
Commission's Rules -	)	
Hearing Aid Compatible	)	
Telephones	)	

TO: The Commission

AMERICAN PERSONAL COMMUNICATIONS'
OPPOSITION TO PETITION FOR RULE MAKING

American Personal Communications ("APC")[1/] opposes the Petition for Rule Making ("the Petition") filed by Helping Equalize Access Right in Telecommunications Now ("Petitioner") to amend Section 68.4(a) of the Commission's Rules, 47 C.F.R. § 68.4(a), to revoke the exemption in the Hearing Aid Compatibility Act of 1988 for personal communication services ("PCS") subscriber equipment. The Petition is based on empty speculation and inapposite studies and is motivated by a transparently anti-competitive purpose. It should be denied and no rule making based upon it should be commenced.

I. INTRODUCTION

APC has been a proponent of PCS for more than five years and has believed throughout its efforts to bring this terrific new service to the American public that PCS must be a service for everyone -- including, particularly, disabled Americans who can benefit substantially from competitively

---

[1/] American PCS, L.P., d/b/a American Personal Communications.

priced portable telephony services. APC believes that protecting the rights of the hearing impaired is a vitally important goal that all PCS licensees should embrace.

Consistent with this commitment, APC's requests for quotations for PCS handsets that were issued in January 1995 included strict compatibility requirements for all handset manufacturers in addition to those that exist today. APC has been working, and will continue to work, with manufacturers of PCS equipment to help ensure that hard-of-hearing individuals will be full participants in the PCS revolution. Based on our efforts, we are confident that these efforts will succeed in permitting all PCS technologies to be accessible to the hearing impaired.

However, the rule making action proposed in the Petition threatens to stop these progressive efforts dead in their tracks and would delay the advent of competitive PCS service in the United States. This would be a mistake that would actually endanger the ongoing industry efforts toward ensuring that all PCS subscriber equipment is hearing-aid compatible and defeat the very concerns of the legitimate hearing-rights groups that we believe have been misled into supporting the Petition. The Petition provides no basis for such a Draconian result.

To begin with, Petitioner's claims are based on false and misleading information about the effect of the American version of the Global System for Mobile

Communications ("GSM") operating standard on hearing aid devices. The American proposed standard derived from GSM technology, known as "PCS-1900," operates in a different frequency band from any GSM technology that has been studied and transmits at less than one-eighth the power level of the GSM technology on which the studies appended to the Petition are based.[2/] Proper studies of the PCS-1900 standard, not pseudo-scientific advocacy events designed to deceive decisionmakers, are called for here. Such serious studies are being performed by the Cellular Telecommunications Industry Association ("CTIA") and the Personal Communications Industry Association ("PCIA").[3/] The proper and reliable studies that will result from these efforts, not the deceptive advocacy efforts of the Petitioner, should inform and guide the Commission's actions.

Petitioner primarily seeks to gain an unfair and unwarranted advantage for its competing digital technology by denying the GSM standard access to the United States market.

[2/] European GSM phones have a maximum power output of 2 watts. American PCS phones will have an average output power of about 0.125 watts. In addition, the 2 GHz frequencies at which American PCS phones will operate do not penetrate solids as easily as the 800 MHz frequencies in which European GSM phones operate, further diminishing the interference potential of American PCS phones. See GSM/Hearing-Aid Debate Resurfaces, Underscores Growing Standards Battle, PCS Week, March 29, 1995, at 3-4.

[3/] See PCIA Task Force to Conduct RF Interference Study, Communications Today, July 12, 1995; Study Seeks Cellular Solutions for Hearing-Aid Users, Communications Today, July 10, 1995.

It is well known that the organizers of Petitioner have a vested economic interest in code division multiple access ("CDMA") technology, the primary technological rival to PCS-1900.[4/] Some group members of the Petitioner coalition undoubtedly are motivated by true concern for the rights of hearing impaired individuals. However, APC believes that these members have been misled by the economically motivated groups that represent the driving force behind the Petition.

It is particularly inappropriate for petitioner to create an unjustified public health and safety scare in its attempt to secure an advantageous competitive position. Experts have found that the interference problems associated with the GSM standard do not pose any health or safety risks whatsoever. In fact, time division multiple access ("TDMA") digital cellular equipment currently being used by about 2 percent of some 25,000,000 American cellular subscribers interferes with hearing aids to a greater degree than does any GSM equipment. And even the higher-powered GSM technologies tested in the studies cited by Petitioner have been

---

[4/] Petitioner's president is, in fact, more promotional of the CDMA technology in which his company has invested than are the very pioneers of CDMA technology. For example, Petitioner's president bluntly claimed at a Capital Hill demonstration that "CDMA does not interfere. Period." The vice president of QUALCOMM Inc., the company that pioneered CDMA technology for wireless telephony, took the more reasoned and scientific view: "Kevin Kelley, vp-external affairs, Qualcomm, said after briefing: 'Anything will interfere in the right set of circumstances.' Company has results showing CDMA also causes some interference, he said." Communications Daily, July 13, 1995, at 1-2.

implemented in 69 countries around the world, without a single country denying the technology access to its marketplace because of hearing-aid interference.

Finally, APC believes that the considerations which led Congress in 1988 to carve out exemptions from the Act for "telephones used with public mobile services" and "telephones used with private radio services" would lead to the same result if they were revisited today. Petitioner has presented no reliable evidence demonstrating that the standard for revocation of these exemptions to the Act has been met.[5/]

The Petition should be denied. At most, the Commission's Office of Engineering and Technology should monitor the efforts of the industry to ensure that PCS subscriber equipment is hearing-aid compatible.

II. THE PETITION IS AN UNSUPPORTED AND TRANSPARENT EFFORT TO INVOLVE THE COMMISSION IN PICKING WINNERS IN THE MARKETPLACE.

A. The European Studies Upon Which Petitioner's Conclusions Are Based Do Not Apply To Equipment Operating Under The American PCS-1900 Standard.

The Petition is not supported by a single report that studied the very technology Petitioner seeks to ban. Petitioner's conclusions regarding the impact of GSM devices on hearing aids is founded entirely upon an anecdotal assessment of only selected studies undertaken by European and

---

[5/] Moreover, even if Petitioner could show that circumstances warrant a "limited revocation" of the exemption for PCS technology alone, such a piecemeal approach to rule making is clearly improper.

Australian research centers which tested equipment operating under the European GSM standard.[6/] Those studies are inapplicable to equipment operating under the American GSM-derived standard because PCS 1900 devices would operate at higher frequencies and at greatly reduced power levels in comparison to the European GSM equipment.

In fact, the European GSM standard generally operates in the 800 Mhz frequencies at power levels ranging from 0.8 to 8 watts. The American standard would operate in the 1.85-1.99 GHz frequencies at an approximate average output of 0.125 watts. Thus, the European GSM standard operates in a frequency with different characteristics and at a power level more than eight times the average power output of PCS 1900.[7/] This lower power level greatly reduces the potential for interference with hearing aids or other electrical devices. Petitioner's disregard of this crucial distinction between the European and American version of the GSM standard serves to underscore its true motivation -- to gain a competitive edge.

[6/] See Petition, n.9, citing studies conducted by the National Telecom Agency of Denmark; the National Audiology Centre, Auckland, New Zealand; the National Acoustic Laboratories of Sydney, Australia; and British Telecom Laboratories.

[7/] Petitioner admits that "the level of interference experienced by the hearing aid wearer is dependent on several factors, including the type of hearing aid, the power level of the GSM device, and the proximity of the GSM device to the ear." See Petition at p. 4, n. 9. In fact, these factors determine not only the "level of interference," but whether any interference is experienced at all.

B. Petitioner Has Grossly Distorted The Nature And Gravity Of The Hearing Aid Compatibility Issue.

Although Petitioner bases its conclusions on European laboratory studies, it ignores the "real life" European experience with GSM phones. More than 10,000,000 subscribers current use GSM telephones in almost 70 countries. In fact, when the European experience with the GSM standard is examined, Petitioner's distortion of the severity of the GSM compatibility problem becomes apparent.

Although GSM technology currently is in wide use throughout Europe, Asia and Australia, the industry has received few complaints from hearing aid users. Professor Ole Lauridsen, corporate director for research and development for Tele Danmark, observed that although 4.8 percent of his country's population, approximately 250,000 people, use GSM telephones, the Danish Telecom Inspector has not received a single complaint about interference from hearing aid users or from any other party. See Letter from Ole Lauridsen to The Honorable Reed Hundt, March 26, 1995 (Attachment A).[8/]

In his letter to Chairman Hundt, Mr. Lauridsen responds to "misinterpreted and unauthorized comments attributed to [him] in a report issued by Wireless Communications Council" (a member of, and the motivating force behind, Petitioner). Mr. Lauridsen's remarks highlight other misleading aspects of Petitioner's contentions. For example,

---

[8/] Professor Lauridsen formerly was employed as a development manager for the hearing aid industry.

he notes that "the only interference [his] laboratory ever reported has been between old, inferior quality hearing aids located within three [feet] or less of a [handheld] GSM telephone acting at [its] maximum power level of 2 watts."[9/] Lauridsen also observes that a full one-third of the existing hearing aid population already possess sufficient immunity to allow for use with a GSM phone. Mr. Lauridsen's remarks also do much to dispel the notion that hearing aid wearers are put at interference risk from other people's GSM phones, noting that for the those members of the hearing aid population who do experience some interference when they personally use GSM phones, "the probability for disturbances from other users of GSM telephones was found to be negligible."

Notwithstanding Petitioner's single-minded focus on GSM technology, the Commission should be aware that all digital wireless technologies, not just GSM, have the potential to interfere with electronic equipment such as hearing aids. The concern for electromagnetic compatibility extends far beyond the digital wireless industry. Many commonplace electrical devices have an equal or greater interference potential. For example, fluorescent lights generally cause greater interference than GSM phones.[10/] It

---

[9/] Again, it should be noted that even these favorable findings were the result of studies performed on GSM devices operating at a much higher power level than PCS 1900 phones.

[10/] Florescent lights, electric hair dryers, electronic razors and even electrical fields produced by thunderstorms produce more interference with hearing aids than full-power

is doubtful that even the most staunch supporters of the rights of the hearing impaired would support a policy that crippled technological advances by retarding the distribution of all electrical devices that potentially interfered with hearing aids. All new technologies have compatibility issues that must be addressed, and PCS technology is no exception. But that does not mean that PCS technology -- and, by extension, currently operating TDMA digital cellular phones, fluorescent lights, electric razors and other potential interferers -- must be banned while solutions to interference issues are being established.

C. A Rule Making Proceeding Seeking To Ban PCS-1900 Technology Is Particularly Inappropriate Given The Wireless Industries' Ongoing Efforts To Identify And Resolve Compatibility Issues.

In contrast to Petitioner's approach, the wireless industry has made every effort to meet the compatibility issue head on. In 1994, the Center for the Study of Wireless Electromagnetic Compatibility (the "EMC Center") was established at the University of Oklahoma with seed money from the wireless industry. The industry donated $100,000 to the EMC Center that was specifically earmarked for the study of the interaction between hearing aid devices and wireless technologies.

European GSM phones. See S. Sharrock, Editor, Mobile Communications International, Paper Presented to the GSM World Congress (Madrid, Spain, Feb. 7-9, 1995).

The goals identified during an EMC Center planning forum included: studying both existing standards and trends in the technology that effect interaction; performing compatibility studies in phases to hasten the availability of information; facilitating the exchange of information between the wireless and hearing aid industries and developing a joint industry position; and involving consumer and industry groups, as well as appropriate agencies and standards bodies. Ultimately, the EMC Center hopes that its evaluation of the interaction between wireless and hearing aid technologies will lead to the identification and implementation of solutions to interference problems. Other comprehensive studies, including a survey by the PCIA's Electromagnetic Compatibility Task Force, are also underway.

Some solutions to compatibility problems already have been identified. In his October 5, 1994, remarks before the Subcommittee on Information, Justice, Transportation and Agriculture on a related topic, Dr. Thomas P. Stanley, Chief Engineer in the Commission's Office of Plans and Policy observed: "[T]he more comprehensive, long term and practical solution to the EMC problem in most cases . . . is to make the medical devices more immune to undesired transmissions." Dr. Stanley noted that "research is underway in this area" and stated "we do not believe that regulation will be necessary if the medical device industry will adopt and adhere to voluntary standards." The Europeans also have concluded that the

solution to the interference problem lies in increased device immunity. In addition, some hearing aid wearers will be able to use plug in extension devices or interconnect systems.

In sum, the wireless industry has demonstrated its commitment to identification and resolution of interaction problems. The Draconian solution proposed in the Petition would accomplish little more than an unfair tipping of the scales in the battle for PCS market share and would delay the implementation of competitive PCS service for months, if not years (precisely the result Petitioner hopes to achieve).

III. PETITIONER HAS PRESENTED NO EVIDENCE THAT THE PURPOSES UNDERLYING THE EXEMPTIONS FOR PUBLIC MOBILE AND PRIVATE RADIO SERVICES HAVE BEEN FULFILLED OR THAT THE STANDARD FOR REVOCATION OF THE EXEMPTIONS HAS BEEN MET.

The legislative history of the Hearing Aid Compatibility Act identifies the two primary purposes which underlie the exemptions in issue.[11/] First, Congress was concerned that the cost of making mobile and cordless phones compatible would be substantial. Congress also believed that phones falling within the public mobile and private radio categories of service were specialized "second" phones which would not disadvantage persons who were unable to use them.[12/] These purposes correspond to two of the four

---

[11/] See H.R. Rep. No. 674, 100th Cong., 2d Sess. at 9 (1988).

[12/] Congress, did, however, envision a time when such phones might become so commonplace that the exemption should be lifted.

prongs of the standard for revocation of the exemptions: (i) compliance with the requirements would not increase costs to such an extent that the phones could not be successfully marketed; and (ii) continuation of the exemption would adversely effect hard of hearing individuals.[13/] Petitioner has not presented a shred of reliable evidence to support its assertion that the standard has been met.

As to the cost of compatibility, Petitioner's assertions miss the point entirely. Petitioner merely states that because the GSM standard has not yet been introduced in to the United States, there are no existing users that would be affected and no infrastructure that would have to be altered.[14/] This assessment is demonstrably false -- APC now is constructing a PCS system in the Washington-Baltimore major trading area that will utilize PCS-1900 technology and which will begin commercial service this year. APC has installed its switch and multiple base stations, with additional base stations being constructed virtually daily. All this equipment is based on PCS-1900 technology. The costs to APC of the actions proposed by Petitioner would be staggering. Moreover, Petitioner simply fails to address the real issue of

---

[13/] See 47 U.S.C. § 610 (b)(2)(C); 47 C.F.R. § 68.4(a)(4).

[14/] See Petition at p. 7.

whether the costs of complying with the Act would prohibit the phones from ever entering the market.[15/]

More fundamentally, as discussed at length above, not one of the studies upon which the petition is based actually studied the PCS 1900 technology which petitioner critiques. Accordingly, any discussion of the effect of the American PCS-1900 standard on hearing aid users is utterly lacking in foundation.

Petitioner's tunnel vision on the subject of GSM blinds it to even the most obvious defects in its reasoning. The petition alleges that revocation is in the "public interest" because, as PCS devices flood the market, "some four million Americans will be excluded from this next phase of the telecommunications revolution." See Petition at pp. 5-6. Of course, this analysis ignores the remaining millions of Americans who will benefit greatly from introduction of this technology into the wireless marketplace. Furthermore, even if the term "public" is defined to exclude all but the hearing impaired, there can be no question that allowing this technology to be implemented expeditiously would also benefit this population. First, as discussed above, a substantial percentage of the current population of hearing aid users will

---

[15/] Moreover, Petitioner's showing with respect to another component of the revocation standard -- that compliance be technologically feasible -- consists entirely of vague, unsupported, and speculative allegations. Petitioner simply states that several design alterations could substantially reduce interference and than admits that "these options have not been explored." See Petition at pp. 7-8.

not experience interference and will thus be able to reap the substantial benefits flowing from this new technology. Moreover, as the House Commerce Committed observed in connection with the exemption of cordless telephones: "As . . . production increases and becomes more efficient, economies of scale will reduce the costs of making [the phones] hearing aid compatible. The additional time will allow this production evolution to take place."[16/]

Finally, the Petition ignores another provision in the Act which clearly reflects Congressional intent to insure that compatibility requirements will not inhibit the development of new technologies. The Act provides that, under certain circumstances, the Commission may waive the compatibility requirements for new technologies or services.[17/] The Senate Report explains that the waiver provision was added because "the [Commerce] Committee does not wish to hinder the development of such new technologies by requiring telephones to be [Hearing Aid Compatible]."[18/] Petitioner's attempt to arrest the development of important new digital technology is incompatible with this express legislative intent.

[16/] H.R. Rep. No. 674, 100th Cong., 2d Sess. at 9 (1988).

[17/] See 47 U.S.C. § 610 (b)(3); 47 C.F.R. § 68.5.

[18/] S. Rep. No. 391, 100th Cong., 2d Sess. at 6-7 (1988).

IV. CONCLUSION

The Petition is based on transparently anticompetitive motives and provides no basis for placing the federal government in the position of picking winners in the competition for PCS technology. Granting it -- or even commencing a rule making proceeding based upon it and thus casting a shadow over the efforts of the very PCS licensees who seek quickly to roll out competitive PCS service to the American public -- would delay and deny the benefits of PCS to millions. The Petition should be denied.

Respectfully submitted,

AMERICAN PERSONAL COMMUNICATIONS

By: Laura F. Quinter

Jonathan D. Blake
Kurt A. Wimmer
Laura F. Quinter

COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
Post Office Box 7566
Washington, D.C. 20044
(202) 662-6000

Its Attorneys

Mr. J. Barclay Jones
Vice President, Engineering
American Personal Communications
One Democracy Center
6901 Rockledge Drive, Suite 600
Bethesda, Maryland 20817

July 17, 1995

ATTACHMENT A

TELE DANMARK

The Honorable Reed E. Hundt
Chairman Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554
USA

Corporate R&D

26. March 1995

OML

Subject: Global System for Mobile communications (GSM) as an operating Standard for PCS in the United States of America.

Dear Mr. Chairman:

During the last few weeks, letters and reports regarding the public health and safety of GSM in the United States of America have been circulated between you, United States Senators, Senate Committees and Subcommittees, and Baker and Hoestetler prompted in part by misinterpreted and unauthorized comments attributed to me in a report issued by Wireless Communications Council entitled: "The GSM Operating Standard for Personal Communications: A Threat to Hearing Aids and Other Consumer and Medical Electronic Devices". I am writing to you to clarify the situation on electromagnetic compatibility (EMC) between GSM, hearing aids, and other electronic and electrical equipment.

As director of Telelaboratoriet for Telecom Denmark, let me first of all clearly state that GSM telephones, hearing aids, and all other electronic and electrical equipment which meet the European Union EMC directive, 89/336/EEC, can operate simultaneously without interference from each other. This means that hearing aid users can successfully and comfortably use a 2 watt, handhold GSM telephone in conjunction with a hearing aided ear without interference. The only interference my laboratory has ever reported has been between old, inferior quality hearing aids located within three feet's or less of a handhold GSM telephone operating at it's maximum power level of 2 watts. In the existing population of hearing aids, one third had the immunity to be used with a GSM telephone, the rest had such good immunity that the probability for disturbances from other users of GSM telephones was found to be negligible.

In my little country of Denmark, over 250.000 people (4.8 % of the population) are currently using GSM telephones on two competitive, nation-wide networks and not one single complaint has been received by the Danish Telecom Inspector from

[illegible]

Headquarters:
[illegible]
8000 Aarhus C
Denmark
Tel.: + 45 89 88 77 77

Lyngsø Allé 3
2970 Hørsholm
Denmark
Tel.: + 45 45 76 64 44

Tele Danmark A/S
Aarhus
Company Reg. No. 189 447
Telex 64444 tdk dk

TELE DANMARK

Corporate R&D

26. March 1995

OML

hearing aid users, car owners, hospitals, airports, medical equipment suppliers, consumer protection agencies, etc.. I also wish to advise you that it is considered inaccurate for Wireless Communications Council to single out GSM as a potential interferer, as all analogue and digital radiotransmission standards can influence the function of electronic devices including, but not limited to AM, FM, AMPS, CDMA & D-AMPS. It must also be recognised that many digital radio transmitting systems, including D-AMPS, utilize the exact same radio access method as GSM, Time Division Multiple Access (TDMA).

As I have a background not only as a scientific telecommunications research expert, but also as a development manager for the hearing aid industry, I am consistently advising both industries in the development of new modulation technologies and EMC compatibility test methods. A complete copy of my research can be obtained upon request at facsimile number + 45 45 76 99 83.

With copy of letter to:
The Honorable Senator Trent Lott
The Honorable Senator Bob Packwood
Baker & Hostetler, Mr. Guy Vander Jagt

Sincerely,

Ole Mark Lauridsen

Ole Mark Lauridsen
Corporate Director R&D

Professor, MSc. E.E.

[illegible]

Headquarter:
[illegible] 16
8000 Århus C
Denmark
Tel.: +45 [illegible] 77 77
Fax: +45 [illegible] 81 33

Lyngsø Allé 2
2970 Hørsholm
Denmark
Tel.: +45 45 76 64 44
Fax: +45 45 76 [illegible]

Tele Danmark A/S
Århus
Company Reg. No. 199.447
Telex 64444 tdk dk

CERTIFICATE OF SERVICE

I, Laura F. Quinter, hereby certify that true and correct copies of the foregoing pleading have been sent by United States mail, postage prepaid and correctly addressed, to the following on this 17th day of July, 1995.

Michael C. Ruger, Esq.
Baker & Hostetler
1050 Connecticut Avenue, N.W.
Suite 1100
Washington, D.C. 20036

Laura F. Quinter